

**HAHN AND ASSOCIATES, INC.**  
ENVIRONMENTAL CONSULTANTS

March 15, 2016

Mr. Dana Bayuk  
Oregon Department of Environmental Quality  
Northwest Region, Portland Office  
Portland Harbor Section  
700 NE Multnomah Street, #600  
Portland, Oregon 97232

HAI Project No. 2708  
DEQ ECSI File No. 84

**SUBJECT: Progress Report, NW Natural Site, 7900 NW St. Helens Avenue and  
7200 NW Front Avenue, Portland, Oregon**

Dear Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report to summarize Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural relating to historic manufactured gas plant (MGP) activities at the NW Natural Site during the month of February 2016. NW Natural is completing upland investigation and cleanup activities at the NW Natural Site under the Voluntary Agreement No. ECVC-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

**1.0 Communications and Document Submittals**

A project manager call was conducted with DEQ on February 16, 2016 to discuss NW Natural project status and schedules.

In correspondence dated February 3, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted a tabulation of precipitation data compiled from City of Portland HYDRA and area NOAA stations for the Portland area. The correspondence also acknowledged DEQ's approval of NW Natural's planned Fill WBZ transducer installations, including the DEQ-requested MW-40F location.

In correspondence dated February 12, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided monthly meeting materials (proposed remedial action levels and preliminary remediation goals) for the February 22, 2016 check in meeting.

In correspondence dated February 15, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided monthly HC&C system figure sets as part of the routine HC&C system reporting.

In correspondence dated February 17, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided the fourth quarter 2015 lab data package for waste residuals generated at the NW Natural Source Control Groundwater Treatment Facility. This package was revised to address DEQ comments on the initial package submitted on January 15, 2016.

A meeting with representatives of NW Natural and DEQ was conducted on February 18, 2016 to discuss preparation of the RI/RA Addendum to incorporate the OU1 portion of Siltronic into the Gasco uplands project.

In correspondence dated February 18, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted a technical memorandum proposing single-well,

constant-rate pumping tests to constrain Fill WBZ hydraulic conductivities for use in the Gasco Groundwater Model.

In correspondence dated February 18, 2016 (Rob Ede to Dana Bayuk), HAI, on behalf of NW Natural, provided DEQ with a list of monitoring wells for discussion related to reduced sampling frequency.

A teleconference with representatives of NW Natural and DEQ was conducted on February 19, 2016 to discuss revisions to NW Natural's groundwater monitoring program.

A Gasco Uplands FS check-in meeting with representatives of NW Natural and DEQ was conducted on February 22, 2016 to discuss remedial action objectives, geographic subarea designations, and draft preliminary remediation goals for the Gasco site.

In correspondence dated February 23, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted the *Contaminated Materials Management Plan for the NW Natural Gasco Site* for DEQ's review.

In correspondence dated February 25, 2016 (Dana Bayuk to John Renda), DEQ provided agency (DEQ and EPA) comments from review of the HC&C system hydraulic data package (May through October 2015), and requested written responses to several specific comments by March 27, 2016.

## **2.0 Field Work**

Anchor QEA directed the installation of replacement groundwater extraction well PW-1Ub between the dates of February 8, 2016 and February 26, 2016.

On February 29, 2016 HAI coordinated a survey of embankment soil and sediment sampling locations within the Doane Creek drainage in preparation for implementation of sampling anticipated to occur in March.

HAI field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during February 2016. The system recovered approximately 43 gallons of fluids in January, primarily DNAPL.

Tasks related to optimization and maintenance of the HC&C system and the groundwater treatment system were conducted in February 2016, with the system operating under Phase 2 testing parameters since July 21, 2015.

Baseline DNAPL removal as needed to maintain at levels below the top of the well sumps was conducted by Anchor QEA during February 2016 in the following wells near the river shoreline.

- MW-18-30
- MW-26U
- MW-27U
- MW-34L
- MW-38U
- MW-PW2L

On March 31, 2014 NW Natural discontinued routine discharges of treated groundwater to the sanitary sewer (Industrial Wastewater Discharge Permit 500.022). During January 2016 all water was directed to NW Natural's on-site wastewater treatment plant and discharged to the Willamette River consistent with National Pollutant Discharge Elimination System (NPDES) Permit No. 103061 (expires August 31, 2018). Results from NW Natural's NPDES effluent sampling are provided to DEQ in Discharge Monitoring Reports that are submitted on a monthly basis in accordance with the permit. A total of 13,626,329 gallons of treated water were discharged under the NPDES permit during February.

### **3.0 Anticipated Activities and March and April 2016**

NW Natural and DEQ technical working group communications and meetings are anticipated to occur as needed during March and April 2016 to discuss ongoing project tasks.

The draft Feasibility Study Work Plan for the Gasco Uplands will be under development during the indicated timeframe, with DEQ check-in meetings during plan development.

The *HC&C Model Calibration and Validation Report* will be prepared for submittal to DEQ after agreements with the agency are reached and associated refinements are incorporated.

Long-term HC&C system operation, initiated during July 2015 and initially approved through May 2016, will continue.

Preparation and transmittal of monthly HC&C system Figure sets will occur during the indicated timeframe as part of the routine HC&C system reporting requested by DEQ.

The *Groundwater Treatment System Operations and Maintenance Manual*, prepared by Severson Environmental Services, Inc., dated May 2015 is being updated based on feedback provided by DEQ and DOJ and will be resubmitted in early 2016.

The first quarter 2016 NW Natural Comprehensive Groundwater Monitoring event at the NW Natural and Siltronic properties is scheduled to occur in March 2016.

Supplemental Doane Creek investigation activities will occur in late March 2016.

Single-well, constant-rate pumping tests will be conducted in selected Fill WBZ wells once NW Natural receives approval to proceed from DEQ. A standard operating procedure for conducting these tests is under preparation for submittal to DEQ.

Planning and preparations for completion of the RI/RA Addendum for the northern portion of the Siltronic property will be underway during the indicated timeframe. NW Natural and the Oregon Department of Justice will meet and discuss related revisions to the Voluntary Agreement.

Additional information related to the groundwater model as agreed during a December 2, 2015 modeling meeting will be compiled and provided to DEQ during the indicated timeframe.

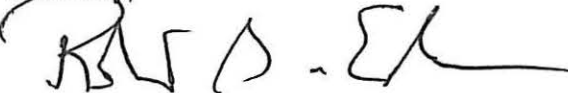
The following reports and work plans for the Site have been submitted to DEQ through the date of this progress report. Unless otherwise noted, NW Natural has not received DEQ comments on these documents.

- *Fill WBZ Trench Design Evaluation Report, Gasco/Siltronic*, prepared by Anchor QEA, dated April 8, 2015.

- *Hydraulic Control and Containment (HC&C) System Operation and Maintenance (O&M) Manual*, prepared by Anchor QEA, dated May 1, 2015.
- *HC&C Capture Performance and Monitoring Plan (PMP)*, prepared by Anchor QEA, dated May 1, 2015.
- *Evaluation of Location of Former Industrial Use Water Supply Well Mult 802, NW Natural Gasco Property, Portland, Oregon*, prepared by Hahn and Associates, Inc., dated November 11, 2015.
- *Tabulation of the Current Groundwater Monitoring Program* as approved for NW Natural implementation at the Gasco and Siltronic properties, transmitted January 15, 2016. This document needs DEQ feedback and incorporation of Siltronic's current groundwater monitoring program in order to achieve DEQ's objective of a holistic / comprehensive document. NW Natural has received some feedback on the Table from DEQ (received March 10, 2016) with regard to sampling program revisions. A revised table will be submitted to DEQ by March 24, 2016.
- *Memorandum - Additional Testing and Data Collection Proposal to Constrain Fill WBZ Hydraulic Conductivities and Recharge Rate in Gasco Groundwater Model*, prepared by Anchor QEA, dated February 18, 2016. DEQ has provided verbal feedback on this proposal during March, requesting submittal of a SOP document.
- *Contaminated Materials Management Plan for the NW Natural Gasco Site*, prepared by Anchor QEA, dated February 23, 2016.

Should you have any questions, please contact the undersigned.

Sincerely,



Rob Ede, R.G.  
Principal

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